



# The Spotting Scope

A quarterly newsletter of the Natural Heritage Program

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## GREEN MICHIGAN

During these days when gray, brown, and white dominates the Michigan landscape some may find it comforting to reflect on the color of summer. Green is dominate and displays the sun's energy at work in our summer landscape. Forests,

**INSECTS!!** Millions upon millions of insects munch their way from the first buds to the golden leaves of fall. It does not take long before this insect handiwork on leaves and grass blades alerts us to their presence.



This insect horde in turn is food for many animals including mammals, birds, reptiles, amphibians, fishes, and even other insects. Most of the summer's activity is powered by these little protein pills. Whether you are watching robins, warblers, or bats, you are enjoying the power of green processed through these herbivores.

Green is the color of change, as the light greens of spring progress into the deeper hues of mid summer, the sounds of the wild transform. The May mornings are often dominated by songs of male flycatchers, wrens, warblers, and others all competing for mates. These sounds give way to August

grasslands, and even crop fields form a landscape of green that is supported by our temperate climate, nutrient-rich soils and the availability of soil moisture. Green is Michigan's summer.

Green is the color of photosynthesis. We are taught in grade school that plants use sun energy to build sugars that are stored in the plants. During this process green plants release oxygen into the atmosphere making a better place for us all to live. Green plants also remove carbon dioxide (a green house gas) from the atmosphere.

What we are not often taught is these same green plants also release lots of moisture into the air as they grow. This moisture release is enough that relative summer humidity rarely drops below 70%. The humidity stems from two sources. First, the sun evaporates moisture directly from soil and water but, a greater contribution comes from the plants during photosynthesis, when green plants are transpiring moisture from the soil into the atmosphere. Green is the color of nature's balance, balancing moisture, oxygen, carbon dioxide and other nutrients in the ecosystem.

Green is the color of the food chain. Moderate temperatures and humidity together with all those plants make a perfect place for herbivores or animals that eat plants. Such animals that quickly come to mind are deer, rabbits, and woodchucks. However, don't overlook the real consumers of green:



mornings dominated by the songs of male crickets and cicadas. Whatever the day, you will not find it quiet in the wild green if you are listening.

While winter's shortened days and white blanket may be difficult to endure, just remember the power of sun in a world of green. Do not despair because Michigan's summer and the power of green will return!!



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Natural Heritage Program information can be found on the web at [www.michigan.gov/dnr](http://www.michigan.gov/dnr).

# THE LOWLAND CONIFER FOREST



Lady Slipper (*Cypripedium*) Photo by Deborah Veen

Lowland conifer forests occur in wetlands that are seasonally or permanently wet and are dominated by conifer or evergreen trees that can tolerate saturated soils, such as black spruce, tamarack, northern white cedar, balsam fir, hemlock, and white spruce. These areas are often adjacent to lakes, rivers, or streams. Lowland

conifer forests are characterized by a ground layer that is complex and difficult to traverse (especially in systems dominated by cedar or tamarack) and diverse understory vegetation. They generally occur on peat or muck soils, which are spongy, organic soils formed from dead vegetation (e.g., mosses, sedges, woody plants) that has not decomposed. Four primary types of lowland conifer forests occur in Michigan: black spruce swamps, tamarack swamps, cedar swamps, and wooded swales within dune systems.

Understory shrubs in lowland conifer areas include speckled alder, leatherleaf, Labrador tea, blueberry, dwarf raspberry, grey dogwood and winterberry. These shrubs are sometimes quite dense. A wide variety of vegetation can occur within lowland conifer stands. Cedar swamps are one of the most floristically diverse natural communities in the upper Midwest. Common lowland conifer herbaceous vegetation includes *Sphagnum* mosses, feather mosses, sedges, ferns, orchids, liverworts, marsh marigolds and skunk cabbage. Rare lowland conifer plant species include the federal and state endangered Michigan monkey-flower, the calypso orchid, ram's head orchid, white lady's slipper, mat muhly, sweet william phlox, limestone oak fern, and many others.

Lowland conifer forests are important to many wildlife species. Species such as American marten, moose, smoky shrew, hoary bat, white-tailed deer, southern red-backed vole, snowshoe hare, northern goshawk, spruce grouse, black-backed woodpecker and wood turtle are frequently found in lowland conifer forests. The northern blue butterfly, secretive locust, cherrystone drop snail, and the federally-endangered Hine's emerald dragonfly are rare species that utilize lowland conifer forests. Others, such as arctic shrew and several rare land snails, such as the tapered vertigo, prefer lowland conifers

over other habitats. Still other wildlife species require lowland conifer forests, including the tamarack tree cricket and the federally-endangered Mitchell's satyr.

All lowland conifer forest types are maintained or influenced by groundwater, fire regimes, beavers (flooding and tree cutting), windthrow (trees blown over by the wind) and insect outbreaks. Changes in the timing or frequency of these influences can result in shifts from one conifer type to another or to a completely different community type.

Lowland conifer forests face a variety of threats in Michigan. Altered surface and groundwater flow can damage lowland conifer forests. Many lowland conifer forests face significant threats from invasive plant species such as glossy buckthorn, reed canary grass, giant bulrush (i.e., *Phragmites*), and purple loosestrife. High deer densities can impact the ability of northern white cedar to regenerate. Development can destroy or

fragment lowland conifer forests, permanently altering these important ecosystems.

Actions should be taken to avoid alteration of lowland conifer areas, including



Wood Turtle (*Glyptemys insculpta*)

adjacent areas that are important in maintaining natural surface water and groundwater flow. Efforts should be made to prevent further introduction and spread of invasive species, especially in high quality areas. Research is needed to determine what conditions are necessary for adequate regeneration of northern white cedar and other important lowland conifer species.

There are many opportunities for recreation in lowland conifer forests across Michigan, including places like Oak Grove State Game Area in Livingston County, Pearl Lake in the Manistee National Forest in Newaygo County, Thompson's Harbor State Park in Presque Isle County, Tahquamenon Falls State Park in Chippewa County, and Circle Lake in the Ottawa National Forest in Iron County.

More information on lowland conifers can be found in Michigan's Wildlife Action Plan and the Landowner's Guide to Managing Wildlife at the DNR website, <http://www.michigan.gov/dnr>, and more information is available on specific lowland conifer natural communities at the Michigan Natural Features Inventory Website: <http://web4.msue.msu.edu/mnfi/home.cfm>.





## THE LAKE HURON LOCUST

Most of us have fond recollections of sitting on the porch listening to the chorus of crickets and grasshoppers floating on the evening summer air. They were a comforting sound. No matter where you went in the state it seemed you could always count on the familiar sound to gently rock you to sleep. Not to spoil this pleasant memory, but the sounds you recall could have been made by any of 137 species of grasshoppers, crickets or katydids. Some are found throughout the state like the Marsh meadow grasshopper but others have a very restricted presence in Michigan. The Lake Huron locust (*Trimerotropis huroniana*) is a Great Lakes endemic (found only here) and currently listed as a state threatened species.

The Lake Huron locust lives on high-quality coastal sand dunes. Its current distribution is along the sand dunes of the eastern Upper Peninsula, and northern Lower Peninsula. This locust prefers the area of dunes that are sparsely vegetated and, where populations occur, they are typically the dominant species. One study found over 6,000 Lake Huron locusts along 1.25 miles of shoreline.

Eggs hatch with young emerging around the beginning of July. They can be found in their habitat until the first hard



frosts occurring in September. They are strictly ground dwellers and rarely climb on any foliage or supports. Their main food source is the beach grasses. They will sometimes feed on other dry plant debris or scavenge on dead insects. On sunny days they set up territories several feet in diameter. During cloudy or windy days they will seek shelter in heavier vegetation.

Locusts are not one of the species associated with night sounds. Males make a courtship display and sounds during a hovering flight. They snap their wings making a cracking noise. This same noise can be heard if the locust makes an escape flight after being disturbed.

The Lake Huron locust is on Michigan's list of threatened and endangered species because of its limited distribution along northern shorelines. Degradation of sites by vehicular traffic or development can easily change the character of a shoreline and exclude its use by these locusts. Fortunately, some of the best shoreline habitat for the locust is found on state and federal lands. The future of this locust in Michigan will depend on our willingness to support actions that protect the natural shoreline processes that maintain locust habitat.

Photo by David Cuthrell



### NEW LIVING RESOURCE PATCH

The New 2006 Living Resources patch is now available from the Natural Heritage Unit. This year's patch features the bald eagle. The U.S. Fish and Wildlife Service is moving forward on the process of removing the bald eagle from the list of threatened and endangered species. In Michigan during the 1970s, bald eagle nests fell to less than 90 statewide and less than half of those were producing any young. After restricting or eliminating several of the worst contaminants (such as DDT and PCB) through several environmental laws, the bald eagle began a steady recovery. Today, Michigan is home to more than 450 bald eagle nests with nest sites in many counties that did not have nests recorded for more than 100 years! Please see page 6 for ordering information.

### Also new this year . . .

Hand-thrown, stoneware pottery customized mugs made especially for the Natural Heritage Unit. Every mug is of exceptionally high quality, made one at a time, hand thrown on the potter's wheel. Each features a 3 dimensional medallion of clay depicting one of two past Living Resource's patches. Choose from the rust color mug featuring the 1989-90 Sandhill Crane patch representation or the green mug with the portrayal of the 1999-2000 Green Darner patch. The mugs are durable, oven-safe, microwave-safe and dishwasher safe. Please see page 6 for ordering information.



## SUMMER SNOW

This past summer, birders in the Lower Peninsula were treated to a rare spectacle: snowy owls. In Michigan, snowy owls are normally seen in the wintertime; they fly south in small numbers searching for food and milder climates during severe winters. The Jordon spotted in our state were expected to head back to their Canadian breeding



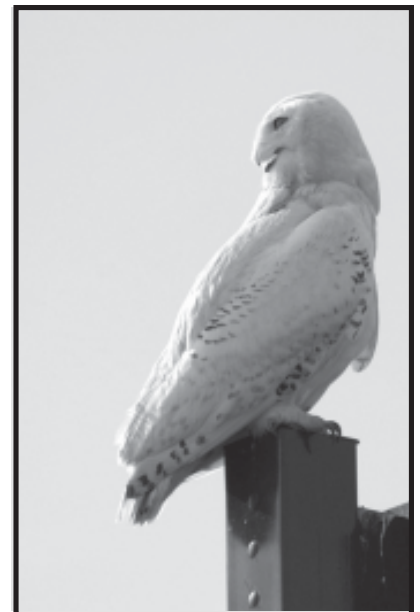
experience a cool spring, temperatures rebounded, including a heat wave for the second half of July. There is little in the way of historic records of snowy owls spending the summer months in Michigan, and this appearance is only slightly less unusual than the snowy owl which was present during the summer of 2004 in Indiana.



grounds as the days lengthened and their natural prey of small mammals become more active on the tundra however, Snowy owl sightings were reported through the middle of September in the Indian River area.

Birders were reporting sightings of one, or possibly more than one, snowy owl. Sightings ranged from the Traverse City

Michigan does not have the tundra and open expanses that snowy owls use for nesting, and it doesn't have the photoperiod (the interval in a 24-hour period during which a plant or animal is exposed to light) found in the owl's traditional breeding range. In fact, zoos that want to breed snowy owls have to artificially simulate the long days of the owl's arctic home. What does this mean in



airport, among towns along the Lake Michigan shoreline between Traverse City and Petoskey, and at the roadside on I-75 near Indian River. Julie Christiansen managed to snap a number of wonderful pictures during one of these sightings near East Jordan in June.



terms of the species or regional climate change? Probably not much, but it was the chance of a lifetime for the birders lucky enough to catch a glimpse of this impressive species in an unusual circumstance.

Why were we seeing this arctic bird spending the summer in our temperate climate? We don't really know. While we did

provided the photos. Julie managed to snap these wonderful pictures during a sighting near East Jordan in June.

Thanks to Julie Christiansen who

## BIRD BANDS

A new osprey pair was sighted this past summer in Oakland County! If that wasn't exciting enough – one of the birds, presumably the male, has one of the DNR's green bands on its leg! Observers were not able to read the number on the band to identify the individual bird but, he is definitely one of the birds involved in the osprey reintroduction program in southeastern Michigan. The pair were unsuccessful in their nesting attempt, but that is not unusual for their first try. Hopefully, we'll see them back next year!



Highland Male Osprey

Ok, you've seen a bird with a leg band, or maybe two leg bands – what do you do now? First, some understanding of the banding protocols is necessary. All birds, including osprey, that are banded have at least the federal U.S. Fish & Wildlife band. This band is gray or silver with an embossed number on it that identifies that individual bird. Usually, you have to be holding the bird in hand in order to read the number. If the bird has another band on the other leg it is



Highland Female Osprey

usually associated with a special program – like the Southern Michigan Osprey Reintroduction Project.

There is a federally operated Bird Banding Laboratory in Maryland that is run by the U.S. Geological Survey's Patuxent Wildlife Research Center. They keep records of bird bands from all over the country and assign special bands to various projects. These special bands are termed

“auxiliary” bands. Each state has a color assigned to it and Michigan's color is green. For the osprey reintroduction project, the Bird Banding Lab assigned green bands with an alpha-numeric code starting with a “C”. Other programs in Michigan may have a different number arrangement but they will also be green (for example, green neck bands on geese).

Bands are very important to the program that placed them on the birds so, it is important to report them. Having complete information is important as well. If a bird has only has a silver federal band, you will have to have the number on it for

it to mean anything to anyone. If the bird is wearing an auxiliary band, the number is important as well, but the color(s) on the



Highland's Osprey Nest High Atop Cellular Tower

band can also mean something. For example, the green band on an osprey means that the bird is from the osprey reintroduction project. No other osprey will have such a band, so reporting that simple information is important. The next step would be to read the number to narrow it down to an individual, but since you've reported the green band, other people may be able to come in and read that number.

So, if you see a green band on an osprey, or any bird, who do you call? Well, you can contact the Bird Banding Lab directly at [www.pwrc.usgs.gov/BBL/homepage/](http://www.pwrc.usgs.gov/BBL/homepage/) or call 800-327-BAND (2263). You can also contact the DNR in Lansing by calling 517-373-1263 or e-mail it to [SargenL2@michigan.gov](mailto:SargenL2@michigan.gov). You can contact your local DNR office also. Consult your local listings for the nearest office or go the DNR website at [www.michigan.gov/dnr](http://www.michigan.gov/dnr).



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## PUT ONE ON!



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